



Houston Business

A Perspective on the Houston Economy

The Wheel Turns Again: Lessons from the Latest Oil Cycle

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Four years ago, in the summer of 1996, drilling activity in the United States was rising quickly in response to oil prices above \$20 per barrel, and the market for oil services and oil-related machinery was beginning to seriously heat up. Ahead would lie severe shortages of people and oil-related equipment at the peak of the market in 1997, a dramatic decline in crude oil prices following the Asian financial crisis of 1997 and, in 1998–99, the lowest levels of global drilling activity of the past 60 years.

This summer marks a point much like that of 1996, where the market for oil services and machinery seems to be bouncing back from depressed conditions, responding to excellent oil and natural gas prices, and heading into a period of very strong drilling activity. The wheel has completed another turn; one cycle in world oil markets is coming to an end and another is beginning.

This article looks at the events of the past four years, details how the last oil price cycle unfolded and describes how the oil industry responded to these events. To the extent that cycles repeat themselves, it offers insight into what lies ahead for oil-related industries and how to cope with the next round.

CRUDE OIL

In mid-1996, the price of West Texas Intermediate (WTI) was holding at a steady \$20–\$21 per barrel, with weather and rumors of Iraq's reentry into world oil markets moving the price on a daily basis. The underlying price level was supported by

strong economic expansion in the United States and around the globe. The exchange of Iraqi crude for humanitarian supplies finally began in December 1996, and the 800,000 barrels per day was being absorbed with barely a ripple.

The Asian financial crisis caused no immediate impact on world oil markets in the summer of 1997, but by autumn slower Asian growth was putting oil back into world markets. On November 17, the price of spot WTI slipped under \$20 per barrel, a level it would not revisit for another 20 months. Crude hit \$16 in January 1998, \$15 in February and \$13–\$14 in early March. With U.S. crude oil inventories 6 percent above year-earlier levels, OPEC failed miserably in an April effort to remove oil from world markets and jump-start prices. Prices collapsed, briefly falling under \$12 per barrel in June 1998 and holding in the \$12–\$14 range for the next nine months.

In March 1999, OPEC tried again to raise prices, this time successfully. Joined by non-OPEC producers Mexico and Norway, Saudi Arabia agreed to take its first formal loss in market share since the Persian Gulf War. On March 1 spot WTI sold for \$12.53 per barrel; by March 30 the spot price was \$16.73. By July high OPEC compliance, combined with the return of strong global economic expansion, lifted oil prices back above \$20 per barrel, where they have stayed.

As the price of crude topped \$30 per barrel this spring, concern grew that high oil prices could undermine the worldwide economic expansion that supported them. OPEC and its partners agreed to add 1.45 million barrels per day into world markets, and possibly another million barrels as winter approaches to meet seasonal heating demand. A target band of \$22–\$28 was announced, and the market quickly focused on the \$25 midpoint.

The \$25 range held only through April and early May. Strong summer demand for gasoline in the United States and rapid economic growth in Europe sent the crude price back to \$30. The OPEC nations expressed reluctance to add oil to world markets before their September meeting, preferring to boost output only for approaching cold weather.

NATURAL GAS

Natural gas provided the positive surprise through this latest cycle in world oil markets. Gas prices have generally remained above \$2

per thousand cubic feet since 1996. As oil prices collapsed in spring 1998, gas prices barely flinched, briefly falling under \$2 before reviving with strong summer demand for electricity generation. Warm winter weather in spring 1999 led to the longest period that gas spent under the \$2 mark during this latest cycle—59 trading days as measured at the Henry Hub in Louisiana—and the price has not fallen under \$2 since.

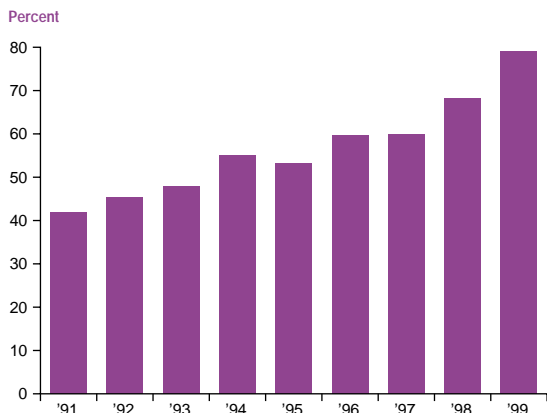
Why did gas do so well? Given the large difference in price, we can be sure all possible fuel switching took place in 1998–99, although the ability to switch from gas to oil is increasingly limited by environmental restrictions on burning oil. The months of historically weak demand for natural gas, in the spring and fall, are increasingly being filled by electric power generation. And the resilience of natural gas prices throughout this four-year period suggests a tighter supply of natural gas than many analysts had suspected.

OIL SERVICES AND MACHINERY

The oil service and machinery industry ultimately mirrors events in world oil markets, and the sudden swing from peak to trough in 1998–99 was largely unforeseen by the industry. In mid-1996 drilling activity was strong and building, with 775 rigs at work. By early 1997, as the industry expanded from 800 to 900 working rigs, capacity constraints were felt, and severe shortages developed for drilling crews, drill pipe, offshore rigs and geophysical skills. Long-term retention bonuses became a common tool to keep crucial technical skills in a red-hot labor market, and conferences focused on how to attract people into the industry. The rig count rose throughout the year, peaking at 1,032 in September and remaining above 1,000 working rigs through December. Drillers and service companies were solidly booked and telling their customers to plan far ahead in their drilling programs.

By March 1998, however, as oil prices collapsed, bankers were visiting producers to demand more collateral, work was being canceled by cash-strapped producers and drillers were offering producers the opportunity to take advantage of “unforeseen windows” in their drilling schedules. The rig count slipped under 900 in March and below 800 in September. By October the work backlogs from 1997 had evaporated, either completed or canceled.

Figure 1
U.S. Drilling Directed to Natural Gas



SOURCE: Baker Hughes Inc.

The skill shortages of 12 months earlier were a distant memory, as layoffs at large companies mounted to 15 percent to 20 percent of the workforce. International drilling hit all-time lows in late 1998, and in April 1999—for the first time in the 60-year history of the Baker Hughes rig count—the number of rigs working in the United States fell below 500.

With the count again above 860 working rigs, the drilling market is showing signs of returning to robust health, completing the cycle begun in 1996. The recovery has been slow and tentative to date, mainly because of a distrust of OPEC and its ability to maintain high oil prices. The distrust manifests itself in two ways. First, as the rig count responded to higher oil prices and steadily climbed during the past 12 months, oil service companies complained that the work available to them has not risen proportionately. The most lucrative work for drillers and service companies—because it is equipment-, people- and technology-intensive—will be offshore, in foreign markets and drilled deeply or horizontally. However, new work has been dominated by onshore, domestic, shallow and vertical wells, selected to be done cheaply and with as little risk as possible. Only over the past three months has the pattern begun to change, with more complex projects being undertaken.

Distrust of OPEC also is demonstrated by the large fraction of domestic drilling devoted to natural gas instead of oil (*Figure 1*). In summer 1996, 37 percent of U.S. rigs were looking for oil. Oil-directed drilling declined dramati-

cally in 1997 and 1998, both in absolute numbers and in the fraction of rigs seeking oil. Oil-directed drilling hit bottom in this latest cycle on August 6, 1999, with 98 rigs—only 17 percent of drilling activity—searching for oil.

LESSONS FROM THE CYCLE?

What did we learn from these latest swings in world oil markets? First, that linear thinking is going to get you into trouble, and extrapolating the present into the future never works. It was the unforeseeable event, a financial crisis in Asia, that sent oil markets tumbling. Too many companies looked at record revenues and huge backlogs in 1997 and made long-term decisions on staffing and equipment that they would regret only a few months later.

In 1997 the rule of thumb was oil prices will never slip under \$15–\$16 per barrel for a prolonged period, and projects that survived the test at these prices did not put the company at risk. That rule now must be amended in light of the 12 months of low prices following March 1998. If we adjust for inflation and examine the average quarterly price for crude oil after 1984, five of the six worst quarters of the past 15 years came in 1998 and early 1999. The infamous third quarter of 1986 now ranks eighth from the bottom.

This latest cycle accelerated the dominance of natural gas in the domestic drilling market. As indicated above, the price of natural gas has been strong, the fundamentals for the U.S. gas market are excellent and gas prices are increasingly isolated from the world oil cycle. Even as confidence in the stability of world oil prices has grown recently, gas continues to squeeze oil out of the domestic market.

Finally, what about OPEC's return to the driver's seat in world oil markets? Can we assume oil prices are on a permanent high plateau thanks to OPEC's newly found unity? Contrast OPEC's floundering efforts to revive oil prices in March and April 1998—just as crude prices collapsed completely—with its remarkable success only 12 months later. Holding the last barrels of crude to be delivered to market, OPEC can look potent at the top of the cycle, but whether cartel unity alone can provide a floor to oil prices without substantial help from the world economy is still open to question. Hence, wide swings in oil prices are still possible.

The local economy continues to respond positively to the energy sector's ongoing recovery; over the past six months overall employment growth has climbed back to a 3 percent annual rate. Preliminary calculations show the Houston Purchasing Managers Index moving above 60 in May—a level not seen since February 1998. This is an excellent indication that higher oil prices are feeding strongly back into the local manufacturing sector.

RETAIL AND AUTO SALES

After a slow start in 2000, retail sales are gradually strengthening. However, although sales have generally pulled ahead of last year's by 2 to 3 percent, they still fall short of plans and projected results for the year.

Auto sales in April lagged comparable year-earlier figures after running 24 percent ahead in the first quarter. Still, April sales were relatively healthy, and dealers report good sales continuing into May.

ENERGY PRICES

Low inventories dominated oil and natural gas prices over the past six weeks. Although gasoline inventories normally build during April and May, this year's supplies gained little ground. Nervous traders, anticipating a record summer driving season and strong European demand, began to bid up the gasoline price. The result was a 35 percent increase in the wholesale gasoline price since mid-April, to \$1 per gallon in late May. Diesel prices also rose on strong demand from truckers and farmers, and the rise in product prices pulled crude from \$25 per barrel to \$30 by Memorial Day.

The story is similar for natural gas. Weekly storage injections fell consistently short of the needed 70–80 billion cubic feet per week. Heightened electricity demand, the

result of hot weather, drained supplies unexpectedly, and the price quickly reached \$4 per thousand cubic feet.

REFINING AND PETROCHEMICALS

Refiners continued to enjoy excellent profits as crude prices followed product prices upward. The lag in crude prices kept margins strong.

Petrochemical producers, having raised their prices late last year and into early 2000 to recoup rising energy feedstock prices, enjoyed their best profits since 1997 in March and early April as energy prices fell. The recent upward push in oil and natural gas prices—especially the latter—undermined profits, however. Continued high natural gas prices threaten profits and could lead to another round of price increases on the Ship Channel.

REAL ESTATE

Last year's lack of new-home inventories pushed buyers into the existing-home market, leading to record sales and sharply rising prices for used homes. The end of labor and material shortages in home construction has allowed new-home builders to get product on the ground, work off backlogs and build speculative houses for immediate sale. The result has been a cooling of the existing-home market and much stronger new-home sales in recent months.

The market for office space still seems positioned for a good year, although leasing has been slow through the first five months of 2000. Apartment oversupply and rent concessions vary throughout the city, with the suburbs experiencing more problems than areas inside the 610 Loop. Industrial space is becoming an overbuilt market, with a lot of construction under way and a slowdown in leasing.

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